

Appendix B

Major Disturbances and Unusual Occurrences

This discussion was prepared for publication in the *Electric Power Monthly* by the Office of Energy Emergency Management (under the Office of Nonproliferation and National Security).

Electric power systems are subject to a variety of incidents that, to a smaller or greater degree, may adversely affect the delivery of electricity to consumers. Among these are natural phenomena (such as storms and earthquakes); failure of electric system components; accidental or purposeful activities inimical to continued safe operation of electric power systems; and, difficulties associated with the normal operation of large, extremely complex real-time systems.

Under current Federal regulations, some disturbances are reported to the Federal Government. The legal basis for the requirements and the specifications of information reported are detailed in Title 10, Part 205, Subpart W, of the *Code of Federal Regulations*, Sections 205.350—205.353, published in the *Federal Register* on October 31, 1986.

In general, the incidents to be reported are grouped into two categories: (1) mandatory in all cases; and (2) mandatory if the incident meets specified criteria, where the utility involved is permitted to exercise some judgment as to whether the criteria have been met. Underlying the formulation of the reporting criteria, requirements, and procedures was the need for the Federal Government to be aware of potentially dangerous situations, tempered by the desire to minimize burdens on the reporting utilities. Another consideration in the development of the rules was the benefit gained from knowledge of the causes and effects of undesired events that may have been caused by unforeseen system defects or by purposeful adverse actions to system design and operation. The final rules reflect modification of the preliminary rules, as published in the *Federal Register*, based on comments from the electric power industry and the general public.

A report is mandatory when, for the purpose of maintaining the continuity of the bulk power supply

system, a utility, due to any equipment failure/system operational action or event, (1) initiates a system voltage reduction of 3 percent or more, (2) disconnects circuits supplying over 100 megawatts of firm customer load, (3) issues an appeal to the public for a voluntary reduction in the use of electricity, or (4) has existing or anticipated fuel supply emergency situations requiring abnormal use of a particular fuel with the potential to reduce supply or stocks if needed to maintain reliable electric service. A report is also mandatory in regard to any actual or suspected act of sabotage or terrorism directed at the bulk power supply system.

In general, reports are to be made by telephone to the Emergency Operating Center, Department of Energy, in Washington, DC, as soon as practicable for instances of load shedding or loss of service, and, at the last, within 3 hours of the beginning of a service interruption. For other disturbances, the allowable reporting time ranges from 24 hours to days. Written reports may be required by the Director, Office of Energy Emergency Management, if the circumstances so indicate.

The DOE is concerned that the operation of the bulk power system in the United States shall be as trouble free as possible. To that end, information is collected, as discussed above, regarding major disturbances to the normal functioning of that system. Events, such as damage to some local distribution circuits by storms or other uncontrollable events, while annoying to the customers affected, do not greatly affect the supply of bulk power to the system as a whole. These events are more properly the concern of local and State authorities. By collecting data on major incidents, the Department is able to monitor the bulk power supply and provide a focus on those matters that may need investigation.

Suggestions regarding the reporting requirements, regulations, procedures, or any other phase of the Power System Emergency Reporting elements are welcomed. Comments can be addressed to the Office of Energy Emergency Operations (NN-63), Department of Energy, 1000 Independence Avenue, SW, Washington, DC20585.

Table B1. Major Disturbances and Unusual Occurrences, 2002

Date	Utility/Power Pool (NERC Council)	Time	Area	Type of Disturbance	Loss (mega- watts)	Number of Customers Affected	Restoration Time
1/30/02	Oklahoma Gas & Electric (SPP)	6:00 am	Oklahoma	Ice Storm	500	1,881,134	12:00 pm, February 7
1/29/02	Kansas City Power & Light (SPP)	Evening	Metropolitan Kansas City Area	Ice Storm	500-600	270,000	NA
1/30/02	Missouri Public Service (SPP)	4:00 pm	Missouri	Ice Storm	210	95,000	9:00 pm, February 10
2/27/02	San Diego Gas & Electric (WSCC)	10:48 am	California	Interruption of Firm Load	300	255,000	11:35 am, February 27
3/09/02	Consumers Energy Co. (CECAR)	12:00 am	Lower Peninsula of Michigan	Severe Weather	190	190,000	12:00 pm, March 11
4/08/02	Arizona Public Service (WSCC)	3:00 pm	Arizona	Vandalism/ Insulators	None	None	April 9
7/09/02	Pacific Gas & Electric (WSCC)	12:27 pm	California	Interruption of Firm Power	240	1 PG&E	7:54 pm, July 9
7/19/02	Pacific Gas & Electric (WSCC)	11:51 am	California	Interruption of Firm Power (Unit Tripped)	240	1 PG&E	4:30 pm, July 19
7/20/02	Consolidated Edison Co. of New York (NPCC)	12:40 pm	New York	Fire	278	63,500	8:12 pm, July 20
10/03/02	(NERC Council) Entergy Corporation (SPP)	3:33 am	Coastal Areas of Southern Louisiana	Hurricane Lily	NA	242,910	October 12

Source: Emergency Operations Center, Form EIA-417R, "Electric Power System Emergency Report."